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EXAMINER	
RALIS, STEPHEN J	

ART UNIT	PAPER NUMBER
3742	

MAIL DATE	DELIVERY MODE
10/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/521,835	O'CONNOR, JASON DANIEL HAROLD	
	Examiner	Art Unit	
	Stephen J. Ralis	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5 and 7-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5 and 7-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2005 and 18 July 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 13 August 2007 has been entered.

Response to Amendment/Arguments

3. Applicant's arguments filed 13 August 2007 have been fully considered but they are not persuasive.

4. Applicant submitted evidence in the form of an appendix to arguments. This submission is non-compliant with respect to 37 CFR 1.131 and/or 37 CFR 1.132 since all evidence must be submitted to the Office in the form of an affidavit or declaration as per the MPEP and according to 37 CFR 1.131 and/or 37 CFR 1.132 to be official entered for the record. However, the examiner respectfully took into consideration the evidence submitted.

5. The appendix filed 13 August 2007 is insufficient to overcome the rejection of claims 1-5 and 7-9 based upon 35 U.S.C. 103(a) as set forth in the last Office action because: In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness. Furthermore, the amount of product sold is not evidence of commercial success. Applicant must adequately define sales figures (see MPEP 716.03 and 1504.03).

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

7. Claims 16-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Horsma et al. (U.S. Patent No. 4,177,376).

Horsma'376 et al. disclose an electrical heating cable (see Figures 20, 23, 24) comprising: two power supply conductors (cylindrical electrodes 55, 56) extending along the length of the cable, at least one conductor being encased in a positive temperature coefficient (PTC) material sheath (PTC layer 59; column 17, lines 20-59; see Figures 20, 23, 24); a semi-conductor heating element (CW layer 57; column 11, lines 44-68) extending along the cable (see Figure 20, 23, 24), the two conductors (cylindrical electrodes 55, 56) being embedded and completely surrounded by the semi-conductor heating element (CW layer 57) with each PTC material sheath (PTC layer 59) being connected in series between the semi-conductor heating element (CW layer 57) and the

conductor (cylindrical electrodes 55, 56) encased in the PTC material sheath (PTC layer 59) (see Figures 20, 23, 26).

With respect to the limitations of claim 17, Horsma'376 et al. disclose each conductor (cylindrical electrodes 55, 56) being encased in a PTC material sheath (PTC layer 59).

With respect to the limitations of claim 18, Horsma'376 et al. disclose the semi-conductor material (CW layer 57 being a polymetric matrix) comprising a constant wattage material.

With respect to the limitations of claim 19, Horsma'376 et al. disclose both the PTC layer (59) and the CW layer (57) being made of PTC material with the CW layer (57) being made of a material that does not increase by more than a factor of six (column 11, lines 6-43).

As the reference meets all material limitations of the claims at hand, the reference is anticipatory.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. Patent No. 4,117,312) in view of Horsma (U.S. Patent No. 4,314,145).

Johnson et al. disclose an electric heating cable comprising: at least two power conductors (10, 12) extending along the length of the cable (C) and at least one heating element (38) which extends along the cable and between the two conductors (10, 12), and connected in parallel between the conductors (i.e. heating material 38 continuously connected to conductors 10, 12), wherein at least one of the conductors is encased in a partial sheath 36 of material which has a temperature of coefficient of resistance material (i.e. layer 36 is coated on at least one of the conductors 10, 12, column 4, lines 25-38; see Figure 4; note: Figure 3 shows insulation jacket with slits 20, 22 and temperature of coefficient of resistance material 18 within the slits 20 between the conductor 10 and heating element 16; Figure 6 shows that insulation layers 58, 60 can partially or completely encase the conductors); and the heating element (38) electrically contacts the outer surface of the sheath (layer 36) (column 4, lines 25-38; see Figure 4) such that the sheath (layer 36) is electrically connected in series between each heating

element (38) and the conductor encased by the sheath (column 4, lines 30-35); wherein the heating element (38) comprises a semi-conductor (i.e. thermoplastic material having graphite particles deposited within; column 8, claim14).

Johnson et al. disclose all of the limitations of the claimed invention, as previously set forth, except for the PTC sheath to completely surround the conductor.

However, electrode conductors for generating heat completely encased in a PTC layer/sheath, as described by Horsma'145, is known in the art. Horsma'145 teaches electrodes of heat generating cables being 100% in contact with the PTC to provide not only for better electrical characteristics but also for ease of manufacture (column 7, line 52 – column 8, line 4; see Figures 1-8). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the partial layer PTC layer of Johnson et al. with the complete annular surrounding of the PTC layer of Horsma'145 to provide not only for better electrical characteristics but also for ease of manufacture.

With respect to the heating element comprising a heating wire instead of a continuously heating material, Johnson et al. disclose Figure 3 (i.e. heating element comprising heating wire) being an equivalent structure known in the art with respect to Figure 4 (i.e. continuously heating material 38). Johnson et al. also disclose a heating wire (16), which extends along the cable and between the two conductors (10, 12), so as to define a series of heating elements connected in parallel between the conductors. Johnson et al. further disclose a temperature sensitive variable resistance material (18) connected to conductor (10) similarly as the coating layer (36). Therefore because these two heating elements were art recognized equivalents at the time of the invention

was made and manufacturing of resistance wire elements is more cost effective than the process of a heating element material, one of ordinary skill in the art would have found it obvious to substitute the heating wire (16) for the heating material (38).

11. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,117,312).

Heizer discloses an electric heating cable comprising: at least two power conductors (1) extending along the length of the cable and at least one heating element (heating wire 5/8) which extends along the cable and between the two conductors (1) encased in an insulation sheaths (2) and connected in parallel between the conductors (via alternating openings 4 along the length of the cable; column 3, lines 56-60); and the heating element (5, 8) electrically contacting the outer surface of the insulation sheaths (2) such that the sheath (2) is electrically connected in series between each heating element and the conductor encased by the sheath (see Figure 6).

Heizer discloses all of the limitations of the claimed invention, as previously set forth, except for calling for at least one of the conductors being encased in a sheath of material that has a positive temperature coefficient.

However, encasing at least one electrode conductor in a PTC sheath, as described by Horsma'145, is known in the art. Horsma teaches the surrounding of at least one electrode with a PTC sheath (Abstract; column 7, line 52 – column 8, line 4; see Figures 1-8) to provide to decrease the flow of current in response to the increased

resistance, limiting power output from the cable, preventing the overheating of the heating cable, thereby increasing the overall safety of the device.

Heizer further discloses the first conductor (1) encased in an insulation sheath (2); a third sheath (insulator coat 3) encasing the first and second sheaths (2); portions of the third sheath (insulator coat 3) being removed to cause the heating wire to contact the second sheath (2); the first sheath being in contract with the second sheath (see Figure 2); and portions of the first and third sheaths removed to cause the heating wire to contact the first conductor (column 3, lines 50-67, column 4, lines 1-2).

12. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (U.S. Patent No. 4,117,312) in view of Horsma (U.S. Patent No. 4,314,145) as applied to claims 1, 2 and 5 above, and further in view of Cole (U.S. Patent No. 4,684,785).

The Johnson-Horsma'145 electrical heating cable combination discloses all of the limitations, as previously set forth, except for the heating element comprising a material having a positive temperature coefficient (PTC) and a heating element comprising a material having a negative temperature coefficient (NTC). However, heating elements comprising PTC or NTC material, as described by Cole, is known in the art. Cole teaches that it is known in the art to have a PTC heating element (14) between two electrodes (10, 12; typical PTC cable; column 2, lines 24-52) to provide a heating element that uses the advantages of a positive temperature coefficient material (i.e. increase in resistivity with respect to temperature), thereby providing a better self-

regulating heater. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify heating element of the Johnson-Horsma'145 electrical heating cable combination with the PTC heating element of Cole to provide a heating element that uses the advantages of a positive temperature coefficient material, thereby providing a self-regulating heater.

With respect to the limitation the heating element being an NTC material, Cole further teaches that is similarly known in the art to have an NTC material between two electrodes that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), to provide a heating element that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), thereby providing a better self-regulating heater.

With respect to the limitation of the positive temperature coefficient of the heating element and the positive temperature coefficient of the sheath of material being selected such that the cable is self-regulating up to a predetermined temperature at which it self-limits, the Johnson-Horsma'145-Cole electrical heating cable combination would have selective PTC material for both the heating element and the sheath, and this combination would inherently self-regulate the cable at a predetermined temperature. With respect to defining the predetermined temperature, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select the PTC material of the heating element and the sheath such that the cable is self-regulating up to a predetermined temperature at which it self-limits, since it has

been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

13. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,314,145) as applied to claims 1-5 above, and further in view of Cole (U.S. Patent No. 4,684,785).

The Heizer-Horsma'145 electrical heating cable combination discloses all of the limitations, as previously set forth, except for the heating element comprising a material having a positive temperature coefficient (PTC) and a heating element comprising a material having a negative temperature coefficient (NTC). However, heating elements comprising PTC or NTC material, as described by Cole, is known in the art. Cole teaches that it is known in the art to have a PTC heating element (14) between two electrodes (10, 12; typical PTC cable; column 2, lines 24-52) to provide a heating element that uses the advantages of a positive temperature coefficient material (i.e. increase in resistivity with respect to temperature), thereby providing a better self-regulating heater. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify heating element of the Johnson-Horsma electrical heating cable combination with the PTC heating element of Cole to provide a heating element that uses the advantages of a positive temperature coefficient material, thereby providing a self-regulating heater.

With respect to the limitation the heating element being an NTC material, Cole further teaches that is similarly known in the art to have an NTC material between two electrodes that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), to provide a heating element that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature), thereby providing a better self-regulating heater.

With respect to the limitation of the positive temperature coefficient of the heating element and the positive temperature coefficient of the sheath of material being selected such that the cable is self-regulating up to a predetermined temperature at which it self-limits, the Heizer-Horsma'145-Cole electrical heating cable combination would have selective PTC material for both the heating element and the sheath, and this combination would inherently self-regulate the cable at a predetermined temperature. With respect to selecting specific PTC material defining the predetermined temperature range at which it self-limits, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to select the PTC material of the heating element and the sheath such that the cable is self-regulating up to a predetermined temperature at which it self-limits, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

14. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,177,376).

Heizer discloses an electrical heating cable (Title) comprising: two power supply conductors (1) extending along the length of the cable, each conductor (1) being encased in a sheath (insulation coat 2); an insulation jacket (insulation coat 3) encasing the conductors (1) and sheaths (2), a first portion of the insulation jacket (insulation coat 3) being removed to expose the outer portion of the sheath (insulation coat 2) and a second portion of the insulation jacket (insulation coat 3) being removed to expose the other conductor to electrical contact (see combination of Figures 2, 6); and a heating wire (heating wire 5/8) extending along the cable around the two conductors (1) on the outside of the insulation jacket (insulation coat 3), and connected in parallel (see Figure 6) between the conductors (1) such that the heating wire (heating wire 5/8) is in electrical contact with the exposed portion of the sheath (insulation coat 2), the heating wire (heating wire 5/8) remaining free of contact with the conductor encased in the sheath (insulation coat 2) (see combination of Figures 2, 6).

With respect to the limitations of claim 11, Heizer discloses one conductor (1) being encased in a insulation material sheath (insulation coat 2), a portion of the insulation material sheath (insulation coat 2) being removed to expose the encased conductor (see Figure 2); a second portion of the insulation jacket (insulation coat 3) being removed to expose the exposed portion of the conductor (1) encased in the insulation material sheath (insulation coat 2); and the heating wire being in electrical

contact with the exposed portion of the conductor encased in the insulation material sheath (see Figures 2, 6).

Heizer discloses all of the limitations of the claimed invention, as previously set forth, except for the at least one conductor being encased in a positive temperature coefficient (PTC) material sheath.

However, encasing at least one conductor in a PTC material sheath surrounded by a constant wattage heater is known in the art. Horsma'376 et al., for example, teach a constant wattage heater cable (see Figure 20) having a pair of power supply conductors (cylindrical electrodes 55, 56) with at least one of the power supply conductors (cylindrical electrodes 55) being encased in a positive temperature coefficient (PTC) sheath (column 17, lines 20-30). Horsma'376 et al. also teach both power supply conductors (cylindrical electrodes 55, 56) being encased in a positive temperature coefficient (PTC) material sheath (column 17, lines 43-59). Horsma'376 et al. further teach the advantage of such a configuration provides for the PTC material to act as a switch to regulate the heating of a constant wattage heater (column 17, lines 25-29), thereby providing a self-regulating which ameliorates the problems of hot lining, high current inrush and burn out (column 6, lines 64-68). It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify one of the insulation sheaths of Heizer with the single PTC material sheath of Horsma'376 et al. in order to provide an automatic switching mechanism to regulate the heating of a constant wattage heater, thereby providing a self-regulating heater which ameliorates the problems of hot lining, high current inrush and burn out.

With respect to the limitations of claim 12, Heizer discloses the heating wire (5/8) being in electrical contact with the exposed portion of the sheaths (insulation coat 2) (see Figure 2). Horsma'376 et al. teach both power supply conductors (cylindrical electrodes 55, 56) being encased in a positive temperature coefficient (PTC) material sheath (column 17, lines 43-59). Therefore since Heizer discloses the heated wire (heating wire 5/8) being in contact with the sheath (insulation coat 2) and not in contact with the conductor (1) at a certain point (see Figure 2) and in view of the combination of a PTC material sheath encasing the conductors, Heizer in view of Horsma'376 et al. fully meets "the heating wire being in electrical contact with the exposed portion of the PTC material sheaths, the heating wire remaining free of contact with the conductors encased in the PTC material sheaths" given its broadest reasonable interpretation.

15. Claims 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heizer (U.S. Patent No. 6,144,018) in view of Horsma et al. (U.S. Patent No. 4,177,376) as applied to claims 10-12 above, and further in view of Evans (U.S. Patent No. 5,049,850).

The Heizer-Horsma'376 combination discloses all of the limitations, as previously set forth, except for the heating wire comprises a constant wattage material, PTC material, or a negative temperature coefficient material.

However, conductive polymer material comprising constant wattage, PTC or NTC used in heaters is known in the art. Evans teaches a conductive polymer composition comprising carbon black mixed with a polymer to create materials that exhibit PTC, ZTC

(constant wattage) or NTC behavior depending on the end use of the material (column 1, lines 18-48, column 2, lines 42-46). Therefore, because these temperature coefficient materials were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a PTC, ZTC or NTC material for any of the other materials depending the desired usage and output of the heater.

16. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horsma et al. (U.S. Patent No. 4,177,376) in view of Cole (U.S. Patent No. 4,684,785).

Horsma'376 et al. disclose the claimed invention except for the use of a NTC material instead of a PTC material.

However, Cole teaches it is known in the art to have an NTC material between two electrodes that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature) as an equivalent structure in the art to provide a heating element that uses the advantages of a negative temperature coefficient material (i.e. decrease in resistivity with respect to temperature). Therefore, because these temperature coefficient materials were art recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute a NTC material for a PTC material depending the desired usage and output of the heater.

Remarks

17. With respect to applicants' argument that the teaching, suggestion or motivation to combine Horsma'145 with Johnson et al. and Heizer (i.e. to provide "better" electrical characteristics and "ease" of manufacture) is a conclusory and unsupported statement without objective evidence, the examiner respectfully disagrees. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, there is some teaching, suggestion, or motivation to do so found in the references themselves. Horsma'145 teaches that a PTC layer may be applied to at least 50% or even preferred at 75% of the electrode surface. However, Horsma'145 explicitly teaches that it is particularly preferred to provide a PTC layer on 100% of the surface not only for electrical characteristics (obviously improved over 50% and 75%) but also for the ease of manufacture (column 7, line 59-column 8, line 4). Clearly, Horsma'145 teaches a suggestion and motivation to be combined with Johnson et al. and Heizer, therefore, the examiner maintains the rejection.

18. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

19. In response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stephen J Ralis
Examiner
Art Unit 3742

SJR
October 23, 2007

TU BA HOANG
SUPERVISORY PATENT EXAMINER